

ABSTRACT

Circuits, devices, and methods for enabling the digitization of scanned images with an Analog Front End (AFE) circuit. The AFE circuit includes a sampler for
5 sampling a signal produced by an image sensor and in response generating analog image samples. The AFE circuit also includes a Programmable Gain Amplifier for generating amplified samples by amplifying the analog image samples. The AFE circuit further includes an Analog to Digital Converter for generating digitized samples from the amplified samples; and a Digital Programmable Gain Amplifier for amplifying the
10 digitized samples which are subsequently presented to a processor for further processing of the scanned image. Accordingly, the scanned image is digitized with amplification taking place both in the analog and in the digital domain, deriving benefits from each. The AFE circuit may be calibrated in two steps, once for each of the domains.

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